

In the Specification

Page 1, first full paragraph:

B2 This application is related to patent application serial No. 09/227,819 filed January 11, 1999, now U.S. patent 6,334,857 entitled "Needle Protection Apparatus Used With A Vial", assigned to the same assignee as the instant invention. This application is furthermore related to ~~an application~~ U.S. patent 6,524,281 entitled "Needle Protection Device For Use With A Vial", ~~to be assigned to the same assignee as the instant application having attorney docket No. 0100/0089.~~ The disclosures of the ~~'819 application and the '089 docket number application~~ '857 and '281 patents are incorporated by reference to the instant application.

Paragraph bridging pages 1-2:

B3 Needle protection devices for use with a vial that contains medicament to be used with applicators such as Tubex and ~~Carpujet~~ Carpujet holder applicators are disclosed in the aforementioned '819 application (the '857 patent). One of the related devices disclosed in the '819 application has a collar that slidably fits over the hub of a vial and is secured thereto by means of a number of extending fingers. Another of the '819 devices has an open collar that mounts about the vial. A pair of interlocking extensions from the collar coact to secure the collar about the vial. Although worked well, these devices fail to take full advantages of the structure of the vial itself and the interaction between the vial and the holder applicators, in order to be securely coupled to the vial. The '089 co-pending application discloses the use of the hub of the vial as a means for securing the collar fitted about the vial. The present invention discloses yet another needle safety device that takes into consideration the inherent characteristic of the vial, and the relationship between the vial and its hub, for securing itself to the vial.

Page 5, last full paragraph:

B4 With reference to Figs. 1 to 4, safety device 2 of the instant invention is shown to include a collar 4 that forms an opening 6 dimensioned to matingly fit about the body of

cr
B4
a vial or capsule, such as for example body 8 of vial 10 as shown in Figs. 7 and 8. Collar 4 has a distal end 4d and a proximal end 4p. Integrally extending from collar 4 is a neck member 12. Flexibly or hingedly connected to the end of neck member 12 away from collar 4 is a housing or a sheath 14. Housing 14 is integrally connected to neck member 12 by means of a living hinge 16, as best shown in Fig. 5. Thus, as shown in Fig. 2, housing 14 is pivotable about hinge 16 along the direction indicated by directional arrow 18.

Page 6, last paragraph bridging to page 7:

B3
The interrelationship between safety device 2 and vial 10, in particular the mating of device 2 to vial 10, is best illustrated in Figs. 7 and 8. To get to its final position with respect to vial body 8 as shown in Figs 7 and 8, collar 4 of device 2 is first placed at end 31, i.e., the glass end, of vial body 8. Collar 4 is then matingly fitted to vial body 8 and matably slid along body 8 towards hub 28 until it is moved to a position adjacent the base of hub 28 as shown in Figs. 7 and 8 where bottom surface 28b at the base of hub 28 abuts against upper surface 4u of collar 4. Given that device 2 is made of a plastic material and neck member 12 is formulated to have an elastic characteristic that makes it flexible, as latch member 20 comes into contact with body 8, neck member 12 is flexibly pushed away from body 8. As collar 4 is moved towards hub 28, latch member 20 maintains its guided contact with body 8. When latch member 20 comes into contact with the side surface of hub 28, it causes neck member 12 to flex even further away, so as to allow collar 4 to continually be pushed towards hub 28.

Page 7, first full paragraph:

B4
At the location as shown in Figs. 7 and 8 where collar 4 is positioned adjacent to the base of hub 28 whereby bottom surface 28b of hub 28 abuts against upper surface 4u of collar 4, given its elastic property, with lip 22 of latch member 20 being positioned at shoulder 33 of hub 28, neck member 12 would snappingly flex back to its original position to thereby cause latch member 20 to coact with shoulder 33 of hub 28 to thereby latch lip 22 onto shoulder 33. As a consequence, collar 4 is fixedly coupled to

B6 vial body 8 and hub 28 thereof due to the respective coacting relationships between latch member 20 with shoulder 30 and between the base of hub 28 and the distal end of collar 4. And absent a concerted effort by the user to push neck member 12 away from hub 28, collar 4 could not be removed from body 8 as it is held in a fixed longitudinal relationship relative to hub 28.

Page 9, first full paragraph:

B7 Although shown to be extending in an upright fashion from collar 4, given that it is a rigid member, in practice, support frame 34 may actually be extending from collar 4 in a somewhat offset manner so as to enable collar 4 to be readily slidable over body 8 of vial 10. And as far as elongate member 38 is flexible and is molded or formed to naturally extend in an upright fashion relative to collar 4, latch member 40 would continue to be flexibly guided by the side surface of body 8, and then hub 28, as collar 4 is matingly slid longitudinally along body 8 of vial 10. As was with the previous embodiment, once collar 4 is positioned properly adjacent hub 28 to abut against lower surface 28b of hub 28, elongate member 38 will snappingly return to its original shape so that lip 42 of latch member 40 would coact with shoulder 32 of hub 28 to thereby latch onto hub 28 to fixedly retain collar 4 relative to hub 28.

Page 9, paragraph bridging pages 9-10:

B8 Fig. 11 illustrates the interrelationship of a vial fitted with the safety device of the instant invention and a holder applicator such as for example a ~~Carpujet~~ Carpujet applicator. As shown, holder 46 has an elongated housing 48 having a cavity 50. The side of housing 48 facing the reader is opened to the environment and an aperture 52 is formed at its opposite side. At the tip of housing 48 there is a an opening or channel 54. At its other end housing 48 is mounted to a finger grip base 56. A bore (not shown) extends through base 56.